Postal Regulatory Commission
Submitted 6/12/2015 3:13:53 PM
Filing ID: 92536
Accepted 6/12/2015

UNITED STATES OF AMERICA
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Price Elasticities and Internet Diversion

Docket No. RM2014-5

NOTICE OF INQUIRY NO. 1

(Issued June 12, 2015)

The Commission issues this Notice of Inquiry after review of comments filed by six parties[1] and consideration of the discussion at the technical conference held August 13, 2014,[2] to afford all interested persons an opportunity to respond to questions relating to price elasticities and Internet diversion. Respondents are urged to fully support their responses with quantitative information. Responses to the questions may be filed under seal as applicable and are requested by August 28, 2015.

The following questions relate to the practical application of features included in the Branching AIDS Model. *See* Library Reference PRC-LR-RM2014-5/2.

[1] Comments of the American Postal Workers Union, AFL-CIO, September 19, 2014; Comments of the National Postal Policy Council on Technical Conference and Attachment A, September 19, 2014; Comments of the Association for Postal Commerce, September 19, 2014; Public Representative Comments, September 19, 2014; Comments of the United States Postal Service in Response to Demand Analysis Technical Conference Material, September 19, 2014 (Postal Service Comments); Valpak Direct Marketing Systems, Inc. and Valpak Dealers' Association, Inc. Comments in Response to Order No. 2117, September 22, 2014. Parties submitted these comments in response to a Commission order. *See* Order No. 2117, Notice and Order Scheduling Technical Conference, July 9, 2014.

[2] *See* Library Reference PRC-LR-RM2014-5/2 – List of Files for the Technical Conference, August 13, 2014. The Technical Conference included a discussion by Lyudmila Y. Bzhilyanskaya, Margaret M. Cigno, and Edward S. Pearsall. *See* PRC-LR-RM2014-5/2, "Notice Documentation rev2.docx," A Branching AIDS Model for Estimating U.S. Postal Price Elasticities (Branching AIDS Model).

1. The Branching AIDS Model attempts to explain mailers' behavior in part by incorporating assumptions regarding allocation of mailers' expenditures across postal products (*e.g.,* retail vs. commercial packages).
   a. What, if any, assumptions regarding mailers' behavior, either included in the Branching AIDS Model or otherwise, should be incorporated into the postal demand and forecasting models and why?
   b. What other factors that affect mailing choices should be reflected by the postal demand and forecasting models and why?
2. The Branching AIDS Model includes "share equations" at the branching points where the aggregated postal revenues are divided by class of mail, then by mail categories, and finally, by shapes.[3]
   a. Would introducing share equations into the postal demand and forecasting models be useful? If yes, what kinds and why? If not, why not?
   b. Please provide any available information regarding the "ongoing effort to estimate separate shape-based demand equations."[4]
   c. What are the major obstacles for introducing share equations into the postal demand and forecasting models? What factors create these obstacles and how can these obstacles be overcome?
   d. What kind of investigations (including, but not limited to, any analytical work or statistical testing) should the Postal Service perform to improve its demand and forecasting models by introducing share equations, similar to those outlined in the Branching AIDS Model?
   e. If the Postal Service incorporates share equations into its demand and forecasting models, what is the most reasonable branching structure that

[3] At each branching point, which might represent all the U.S. domestic mail, class of mail, mail category etc., the share equations divide the postal revenues between the corresponding branches. *Id.* at 1, 11-17.

[4] Postal Service Comments at 19.

would allow the Postal Service to calculate price elasticities at more disaggregated levels than it is currently capable of doing (*e.g.*, by rate category or by shape)?

3. The Branching AIDS Model discussed at the technical conference found that changes in average revenue per-piece tend to be less than proportional to changes in fixed-weight price indices. This is because mailers may be able to adjust their mail mix within a mail category in order to mitigate some of the rate increases.[5] Please discuss:

   a. Implications this finding might have for revenue forecasting.

   b. Any further evaluation that will be necessary before incorporating it into the postal demand and forecasting models.

   c. The likely impact of incorporating this finding on the demand and forecasting models and the estimated elasticities.

The following questions relate to possible further research on the postal demand and forecasting models.

4. As electronic diversion appears to have a major impact on postal demand, please provide responses to the following questions at the most disaggregated level of detail available.

a. What factors (*e.g.*, technological, economic, societal, cultural, demographic, etc.) collectively define electronic diversion?

   b. What variables that capture electronic diversion (aside from intervention variables or trends) are worth considering in the postal demand and forecasting models?

   c. What are the sources of data for modeling electronic diversion?

   d. Are there specific models that can be adopted for modeling electronic diversion of postal demand?

[5] Postal Service Comments at 5. Average revenue per piece reflects postal customers' collective responses to a complex postal tariff and is an endogenous measure of responses to the tariff. Branching AIDS Model at 7.

5. “Indirect competitors” (including, but not limited to, television, radio, periodicals or billboard advertising or long-distance telephone calls) might also have had an impact on postal demand.
   a. What factors that reflect “indirect competitors” of the Postal Services are relevant to postal demand? If feasible, please provide the applicable factors separately for different types of “indirect competitors.”
   b. What relevant explanatory variables that capture the potential causes of changes in postal volumes due to “indirect competitors” should be included into the postal demand and forecasting models?
   c. What data sources are available for modeling the impact of “indirect competitors” on postal demand?
   d. Are there any models that could be adopted for modeling the impact of “indirect competitors” on postal demand? Please discuss.
6. A reasonable alternative model may consider different consumer groups (each having its own set of preferred mail products) and model the postal demand separately by each group.
   a. Is there a quantifiable connection between customer groups and classes of mail?
   b. What sets of consumer groups should be defined for modeling postal demand?
   c. What complications (in terms of data, econometric techniques, etc.) may arise using this modeling approach?
   d. What other types of quantitative and qualitative analysis of mailers’ behavior should be undertaken to improve the postal demand and forecasting models, and the accuracy of the estimated elasticities?
7. Data issues often cause problems for demand forecasting and accurate estimation of price elasticities on a disaggregated level.

a. Would disaggregating postal data by geographic area and estimating the demand models using panel data on the geographic areas and years be useful?
b. What data sources and spatial software would be required to perform such data disaggregation?
c. What proposed changes in the reporting of postal data could provide for more accurate estimates of the price elasticities on a more disaggregated level?

Ruth Ann Abrams
Acting Secretary